In the Claims

1-39. (Previously cancelled)

40. (Currently amended) A microelectronic device structure comprising a top electrode layer fabricated from an oxygen diffusion barrier material, wherein the top electrode layer contacts ~~contacting~~ a top surface of ferroelectric oxide film material, wherein said top surface and vicinity thereunder ~~thereof~~ of the ferroelectric oxide film material is substantially stoichiometrically complete in oxygen concentration [and is not annealed under oxidizing conditions], and wherein the top electrode comprises a material selected from the group consisting of material selected from Ir, Ir oxides, Rh, Rh oxides, and compatible mixtures and alloys of the foregoing.

41. (Previously presented) microelectronic device structure according to claim 40, wherein said ferroelectric film comprises an oxide perovskite or layered structure perovskite.

42. (Previously presented) A microelectronic device structure according to claim 40, wherein said ferroelectric film comprises a material selected from the group consisting of lead zirconium titanate, barium and/or strontium titanates, and strontium bismuth tantalates.

43. (Previously presented) A microelectronic device structure according to claim 40, wherein said ferroelectric film comprises a lead zirconium titanate material.

44. (Previously presented) A microelectronic device structure according to claim 40, wherein said ferroelectric film comprises a barium and/or strontium titanate material.

45. (Previously presented) A microelectronic device structure according to claim 40, wherein said ferroelectric film comprises a strontium bismuth tantalate material.

46. (Cancelled)

47. (Previously presented) A microelectronic device structure according to claim 40, wherein said top electrode layer comprises an Ir oxide material.

48. (Cancelled)

49. (Previously presented) A microelectronic device structure according to claim 40, wherein said top electrode layer is formed of Ir.

50. (Cancelled)

51. (Previously presented) A microelectronic device structure according to claim 40, wherein the top electrode layer is formed of Ir or IrO_2.

52. (Previously presented) A microelectronic device structure according to claim 40, wherein the top electrode is formed in an oxygen-enriched environment under conditions wherein oxygen is not incorporated in the electrode material.

53. (Previously presented) A microelectronic device structure according to claim 40, wherein said top electrode is formed of a metallic non-oxide material by sputtering in the presence of oxygen.

54. (Previously presented) A microelectronic device structure according to claim 40, wherein said top electrode is formed of a noble metal that is formed by evaporation of a noble metal source material in the presence of oxygen.

55-60. (Cancelled)

61. (Previously presented) A microelectronic device structure according to claim 40, wherein said top electrode layer comprises Rh.

62. (Cancelled)

63. (Currently amended) A ferroelectric or high ε capacitor comprising:

a bottom electrode layer formed of a conductive material;

a thin film of an ferroelectric oxide material positioned over the bottom electrode, wherein the thin film of ferroelectric oxide material has a top surface that is substantially stoichiometrically complete in oxygen concentration [and is not annealed under oxidizing conditions], wherein said ferroelectric oxide material comprises a material selected from the group consisting of lead zirconium titanate, barium and/or strontium titanates, and strontium bismuth tantalates; and

a top electrode layer contacting the top surface of the thin film of ferroelectric oxide material, which is formed of a material selected from the group consisting of Ir, Ir oxides, Rh, Rh oxides, and compatible mixtures and alloys thereof, wherein the oxygen concentration of the ferroelectric oxide film is maintained through the formation of the top electrode without the need for post-deposition annealing in oxygen.